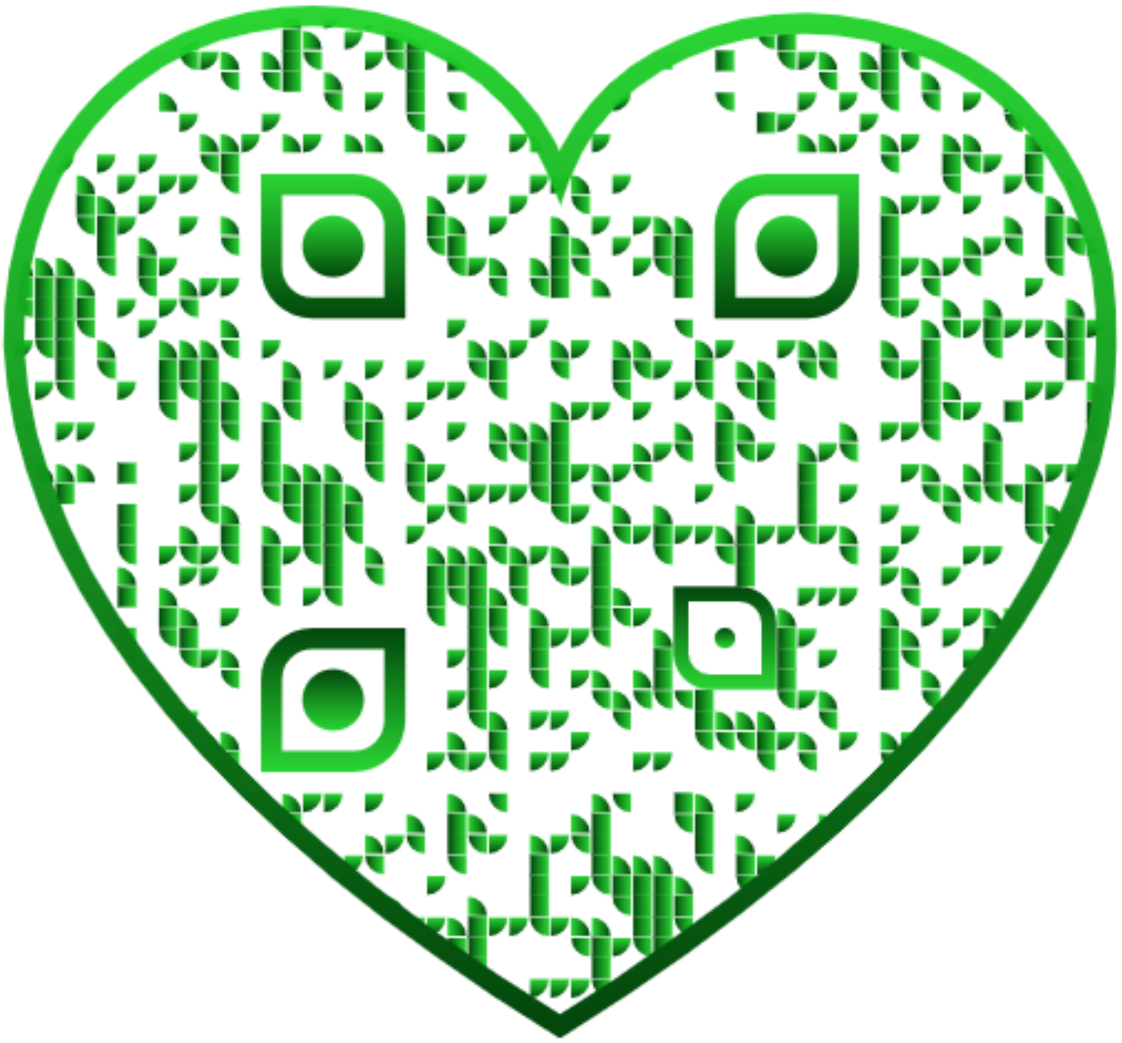
قناة
Medicine Way

افضل قناة للكتب الطبية في الوطن العربي

تيم عمل
طريق الطب

من
منصور الجزار

هدفنا طبيب افضل



One Vision....One mission

ALL TEAM

Elicit Sign

presented by ALL TEAM

How to Elicit A Sign

❖ Eye lids

A. Inspection: of the Pt. from far.

B. Palpation: by gentle pressure on the upper & lower lids to detect any swelling, "chalazion → better palpated than seen".

C. Lid margin:

1. Ask the Pt. to look up,
2. Then elevate his chin, and then come by the torch from down to detect the upper lid margin.
3. Abnormalities → (entropion, ectropion, rubbing lashes, trichiasis).

D. Lid muscles :

I- Levator muscle:

1. Correct the pt head posture.
2. Ask the Pt. to look downward.
3. Fix the thumb finger on the pt eyebrow → why??
   ⇒ To prevent elevation of lid by frontalis ms.
4. Then ask the Pt. to look up & detect whether the upper lid is elevated or not "**ptosed**".

⇒ If you asked to measure the amount of ptosis:

1. Measure the hight of the palpebral fissure
   "From the center of the upper lid margin to the lower limbus".

2. Normally → 9 mm.
   Mild ptosis → 7-9 mm.
   Moderate ptosis → 5-7 mm.
   Severe ptosis → > 5 mm.

II- Orbicuralis occuli muscle:

- Palpebral portion :
  1. Sit at the level of the Pt.
  2. Ask Pt. to close his eye gently "as if he sleep".
  3. Elevate his chin up.
  4. Detect the state of the palpebral fissure whether completely closed or incompletely "lagophthalmos".

⇒ Function of palpebral portion: gentle closure of the lid.

- Orbital portion :
  1. Ask the pt to close his eye forcibly.
  2. Then ask him to resist your attempt to open his eye.
  3. Normaly → you can`t open his eye

⇒Function of orbital portion: forcible contraction of the lid.

❖ Lacrimal Apparatus

A. lacrimal gland:

1. Ask the Pt. to look downwards.
2. **Insinuate** your little finger on the upper lateral portion of his lid to detect the gland.
3. Normaly → gland not felt.

B. Lacrimal sac:

1. Ask the Pt to look upwards.
2. Pull the lateral canthus to outside to see the medial palpbepral ligament visible at the medial canthus.
3. Press on the lacrimal sac down to the medial palpebral ligament by little finger.
4. Direction → backwards, medially, upwards.
5. Normally → -ve regurge test.

N.B: what is the false -ve regurge test:-

The sac is completely filled by tears but the regurge test is negative → means canalicular obstruction or double obstruction.

❖ Conjunctiva

- **Bulbar conj.**
- **Palpebral conj.** → through upper lid eversion.

1. Ask the Pt. to look down.
2. Grasp upper eye lashes between thumb & index fingers.
3. By the tip of the other index press gently downward over the superior aspect of the tarsal plate while pulling the upper lid margin upwards with the lashes.

❖ Sclera

- **Color** → normally white.
- **Contour** → abnormal in staphyloma.

❖ Cornea

- **Clarity** ⇨ examine by torch to detect any abnormalities "nebula, leucoma".

- **Curvature:**

1. Elevate the upper lid upwards.
2. Ask the Pt to look downwards.
3. Detect the state of the lower lid. → normally not protruded.

⇒ **Munson`s sign** angulation of the lower lid on downward gase → keratoconus.

- **Diameter** ⇨ Measure corneal diameter by small ruler
  Normally 12 mm.

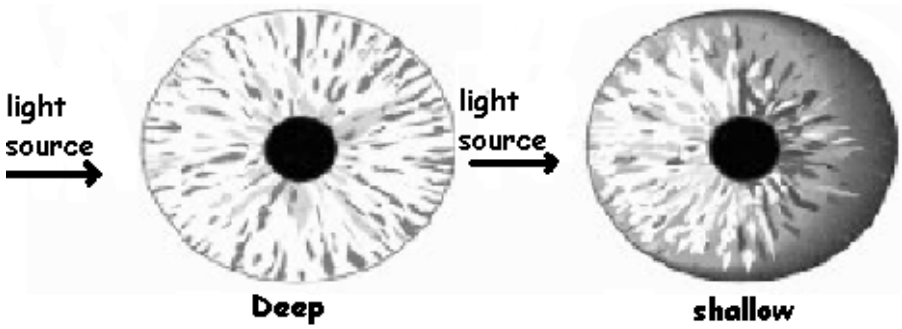
- **Sensitivity** ⇨ to examine the corneal reflex:

1. A thin filament of cotton piece is holded to touch Pt. eye from beside forward.
2. Normally on touching cornea, Blinking protective reflex occur.

N.B: The corneal reflex has the least threshold in the body → highest sensation.

❖ Depth of anterior chamber

1. Shine a light from the temporal side.
2. Look at the nasal aspect of the iris.
3. If 2/3 or more of the nasal iris is in shadow, the chamber is shallow & the angel narrow.
4. Repeat this step from the other directions "nasally, up & down".



❖ Iris

- **Color**
- **Pattern**

❖ Pupil

By **oblique** illumination the pupil is examined for:

1. **Shape:** normally rounded.

2. **Regularity**: normally regular.
   Regular means: that the pupil on mydriasis dilates at a regular pattern.

3. **Reaction to light:**

   a. Light reflex: detect both direct (miosis of the same side) & consensual (miosis of the other eye pupil).
   b. Swinging flash light test: movement of torch from eye to other eye & then to 1st eye again but move the torch from above the nose --- diagnosis of Marcus gun pupil.

N.B: oblique illumination & move the torch from above the nose → to avoid miosis by near response.

✓ **How to diagnose RAPD "relative afferent papillary defect "→** by swinging flash light test.

❖ Lens

- **Position** ⇨ normally in place / abnormal (ant, post dislocation, sublaxation, aphakia).
- **Clarity** ⇨ normally clear / abnormal (senile, traumatic, complicated cataract).

❖ Extra ocular muscles

Any case of squint you should know whether it is:

paralytic	unilatral	eso	degree
concomitant	alternating	exo	of squint

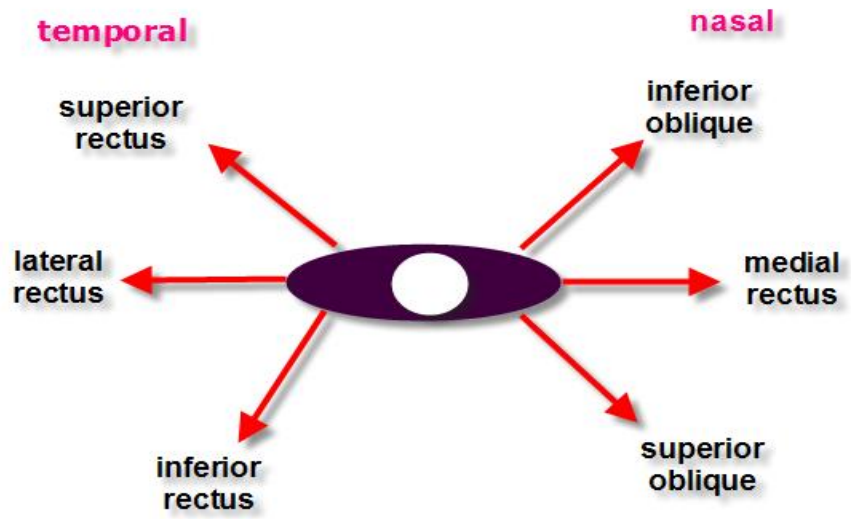
This done by 3 tests

I- Extra ocular motility:

* No limitation → not paralytic.
* If there is limitations → Paralytic.

1. Sit at the level of the Pt. eyes at a distance **50 cm**.
2. Ask him to **cover** one eye.
3. Fix an object in the center of the Pt. field.
4. Ask him to direct his eye with the object movement.
5. Start to move the object slowly to right then back to center.
6. Repeate this step in the other directions (Left, Up&Right, Down&Right, Up&Left, Down&Left).
7. In each step return back to the center.
8. Normally → free ocular motility.
9. Abnormally → limitations of movement occur with paralytic squint.

N.B: Why 50 cm??
⇒ To avoid convergence by near response.
Why to cover one eye??
⇒ As it is examination of EOM motility not the gase.



N.B : in each step return back to center

II- Corneal light reflex "Hirschberg test": (to know eso , exo)

1. Hold a torch in front of the Pt. nose.
2. Observe the light reflex on the cornea of the squinting eye.
3. Normally → the light reflex is in the center of both pupils.
4. If the eye deviate **in** → eso, if deviate **out** → exo.

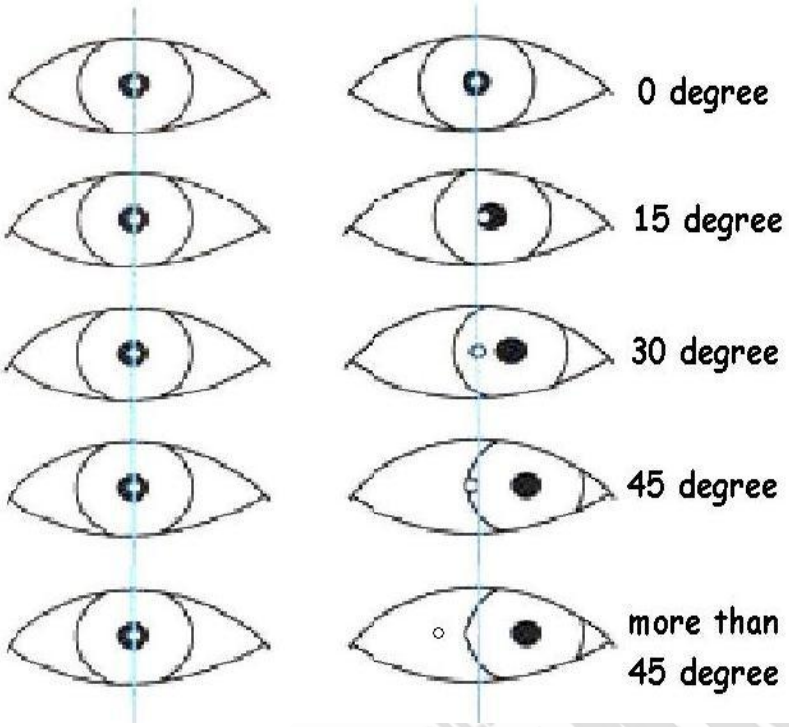
III- **Cover un-cover test:** (to know unilateral , alternating)

1. Ask the Pt. to fix an object "first at distance then at near".
2. Cover the fixing eye:
   * The squinting eye will fix.
   * The fixing eye will deviate "as angel is constant".
3. Remove the cover:
   * If the eye still deviated → alternating squint
   * If the eye return again → unilateral squint.

Uses of cover un cover test

1. **Diagnosis of apparent squint** ⇨ no movement.
2. **Diagnosis of latent squint** ⇨ eye under the cover will deviate & after removal of the cover will return.
3. **Diagnosis of paralytic squint** ⇨ The 2ry angel > 1ry angel.
4. **Differentiation between unilateral & bilateral squint**.

⇒ **How to measure the degree of squint??** ⇨ By corneal light reflex.



N.B: If you ask the pt to fix an object & then you cover the fixing eye, if he didn`t move the uncovered eye to fix although he can see it → it is a case of <u>eccentric fixation</u> "where he can see the object by another part of retina rather than fovea called "**false macula**".

❖ <u>Tension measurement</u> "Digital tonometry"

1. Ask the Pt. to look downwards without closing eye → to avoid false ↑ of IOP.
2. Press on the globe by index finger at the upper temporal quadrant.
3. By the other index indent the globe gentaly at the upper nasal quadrant at right angel with the other finger.
4. The pressure is transmitted to the upper nasal index.

⇒ Disadvantages: rough method for estimation of IOP.

محاضرة د/ فادية الجندي

❖ Ophthalmology Diseases

1. Local eye diseases.
2. Systemic diseases with eye manifistations.

❖ Symptoms important for diagnosis

1. **Discharge:**

N.B: The normal discharge of the eye:

a. Tear.

b. Mucinous secretions → goblet cells of the conj.

c. Meibomian secretions → sebum "fatty discharge".

2. **Visual disturbance:**

N.B: Don't say diminution of vision as it is only type of visual disturbance.

a. Sudden compelete loss of vision → **central retinal artery occulosion.**

b. Sever drop of vision with bursting pain → **acute congestive glaucoma.**

c. Rapid diminution of vision within days with neuralgic pain radiating to the eye brow → **uveitis** "mainly iris".

d. Gradual painless diminution of vision →

1. Corneal opacity. **2. Cataract.**
3. Vitreous opacity. **4. Retinal detachment.**

⇒ Differential Diagnosis of Retinal Detachment:

- Flashing of light.
- Macular degeneration.
- Optic atrophy.
- Progressive myopia.
- Chronic open angel glaucoma.

e. Color defect → **macular or foveal affection**.

f. Douple vision →

1. Late onset of squint with systemic disease or tumors.
2. Subluxated lens.

g. Field defect →

1. Glaucoma. **2. Tumors.**

3. Symptoms of irritation of cornea & conj. in the form of:

a. Lacrimation. b. Blepharospasm.
c. Photophobia.

4. Pain:

a. Discomfort. b. Stitching.
c. Neuralgic. d. Itching.
e. Headache. f. recurrent pain → iritis.

5. Cosmetic disturbances:

a. Exophthalmus. b. Enophthalmus
c. Ptosis. d. Lid retraction.
e. Squint. f. Corneal opacity.

⇒ 1st method of examination is **inspection** of Pt. by observation can detect ⇨

1. Squint.
2. Ptosis "**astonished look**, **torticollis**, and **lumber lordosis**".
3. Exophthalmus.
4. Enophthalmus.

❖ Symptoms of retinal irritation

1. **Flashing of light** ⇨ Mechanical stimulation of the retina rather than chemical stimulation by tear between the retina & the choroid after trauma → fluid enter causing mechanical irritation & it's a type of RD.

2. **Musca Volitans** ⇨ visualisation of an object moving infront of the pt although it is not projected to him → opacity infront of the retina → cast shadow on the retina.

N.B: **Fixed Musca** → lens opacity.

❖ Lines of Treatment

I- Medical:

a. Systemic.

b. Local →

1. **Hot & cold fomentation.**
2. **Antibiotic eye drops:**
   - **Broad spectrum → Pneumococci, Staph & Strept.**
   - **Sulphacetamide → Garm –ve "Koch week's & Morax Axenfeld bacilli".**
3. **Eye ointment.**
4. **Lotion "better clean by <u>running water</u>".**
5. **Banadage → if there is no discharge.**

N.B: In **Winter** → <u>Pneumo</u> & <u>Diphteria</u> are commoner.
In **Autumn** & **Summer** → <u>Koch week`s</u> & <u>Morax Axenfeld</u>.

II- Surgical

1. Choice of the case.
2. Good examination.
3. Powerful indications for operations.
4. Evaluation of the case for surgical interference.
5. Preparation of the case by correction of "Rubbing lashes, ↓ IOP, VA".
6. Steps of the operation (Laser, Phacoemulsfication).
7. Post-operative complications (Blindness, Hyphema, Endophthalmitis).

❖ Methods of examination

1. Fundus examination.
2. Fluorescein angiography.
3. Slit lamp.
4. VA.
5. Applanation tonometery.
6. Red reflex.
7. Retionscopy.

❖ Investigations

1. Fundus examinations.
2. Fluorescien angiography.
3. VA.
4. EGR.

⇒ Arterial supply of the eye:

Ophthalmic artery of ICA & its branch **central retinal artery**.

⇒ Cranial nerves supply the eye:

1. **Optic** nerve → Afferent.
2. **3, 4, 6** cranial nerves → EOM.
3. **Facial** nerve → Motor to Orbicularis ms.
4. **Opthalmic** devision of **trigeminal** → Sensory.

محاضرة د/ حازم ياسين

❖ Lens

I- Purkinje sanson image → normally **7 images:**

1. Anterior corneal surface.
2. Posterior corneal surface.
3. Anterior capsular.
4. Posterior capsular.
5. Anterior nuclear.
6. Posterior nuclear.
7. Anterior vitreous surface.

⇒ Idea: any transparent surface when light fall on it, part of this light reflected so appears shining.

⇒ But actually we can differentiate **3 images:**

1. One on the **cornea**.
2. One on the **capsule**.
3. One on the **nucleus**.

⇒ So in aphakia → only **one image** seen "on the **Cornea**".

As: 1. The nucleus is removed.
2. Posterior capsule became flat, not curved.

II- Cataracta acuta → complicated cataract due to **acute congestive glaucoma**.

❖ Iris

I- DD between Coloboma of iris & Iridectomy:

Items	Coloboma of iris	Iridectomy
• History of iridectomy:	**-ve** history.	**+ve** history.
• Shape:	Colarettes **continue** at its sides.	Colarettes **absent** on its side.
• Site:	**Down** & **Nasal**.	**According** to the **site**.

II- DD between Iridodialysis & Iris melanoma:

Items	Iridodialysis	Iris melanoma
• History of Trauma:	**+ve**	**-ve**
• History of Diplopia:	**+ve**	**-ve**
• Pupil:	**D-shaped**	**Rounded**
• Red Reflex:	**Double**	**Singel**

❖ Pupil

Why we say the pupil is reactive & don't say active??

⇒ **Reactive** means → it responds to stimulus "light".
⇒ But **Active** → it is already active like any alive tissue.

❖ Cornea

- **Vascularized leucoma** means → the keratoplasty will show high rejection.
- **Adherent leucoma** means → the corneal ulcer showed perforation & the Pt. develops glaucoma.
- Leucoma adherent is the central anterior synechia.

⇒ To see the PAS must done by gonioscopy.

❖ Sclera

- Staphyloma → it is ectasia of the outer coat of the eye in which the uvea is sharing.

⇒ How to differentiate between Cilliary & Intercalary staphyloma?

  - The anterior cilliary arteries pierce the sclera between the CB & the root of the iris.
  - The **intercalary** staphyloma **anterior** to it but the cilliary posterior to it.

- Cilliary injection: due to inflammation of the eye → iridocyclitis "hyperemia as it involves arteries".
- Cilliary congestion: due to ↑ pressure inside the eye → acute congestive glaucoma "venus closure".

⇒ Cilliary injection leads to cilliary congestion.

❖ Errors of Refraction

- In **high myopic** Pt. → glaucoma is suspected until you prove its absence.

⇒ As the glaucoma that develops in the high myopia is silent due to:

1. AC → deep due to strech of the wall & high axial length
2. The chorioretinal degeneration → may be due to glaucoma.

- ttt of myopia → the **lowest minus** lens make him see 6/6.

- ttt of hypermetropia → the **highest plus** lens make him see 6/6.

⇒ A Pt. developed aphakia, what is his refractive stage now??

- **Hypermetropic shift** → due to ↓ in the refractive power of eye.

- The worest type of myopia is " the unilateral congintal myopia "
- Aphakia needs **10 D** glass to be corrected instead of **18 D** "Refractive Power of the lens" **because of**:

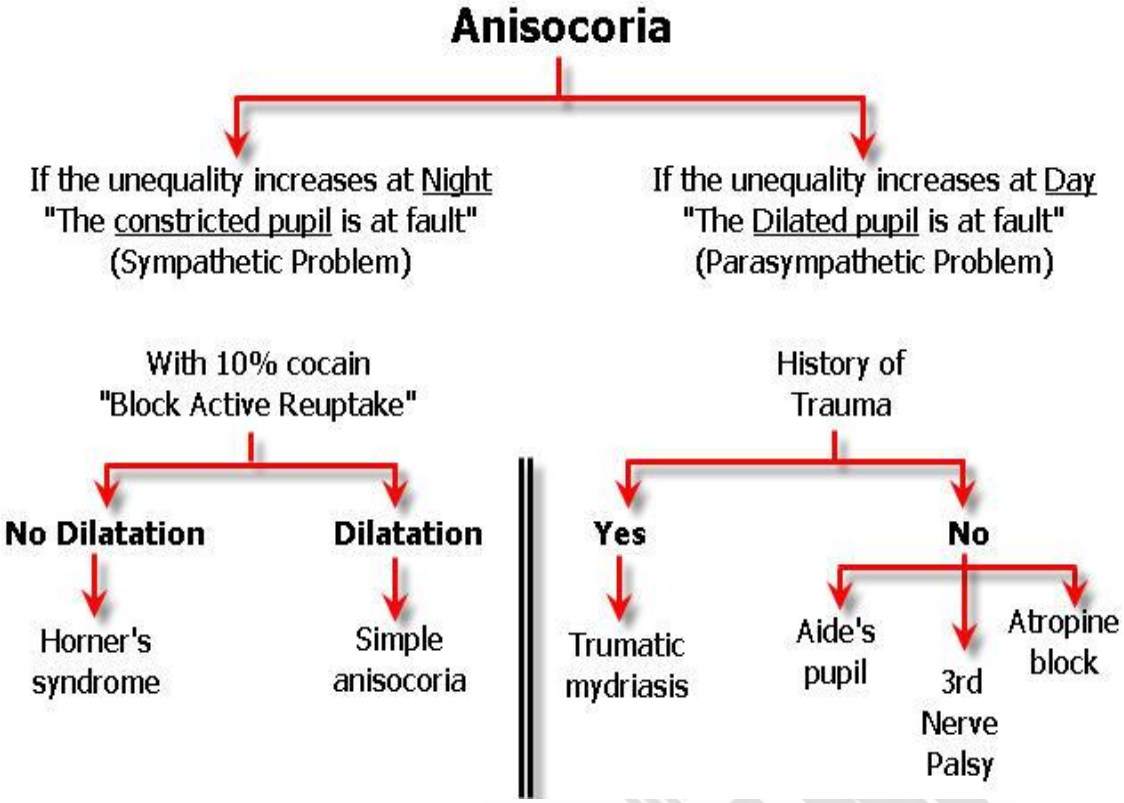
1. Difference in Refractive Index between glass & lens fibers.
2. Difference in Refractive Index between Air "which in contact with glass" & Refractive Index of the AQ "which in contact with lens".

❖ Aetiology of Astigmatism:

- Cornea → (Abnormal clarity, Opacities, Keratoconus & Keratoglobus).
- Lens → sublaxation "lens tilt".
- ttt of RD "scleral buckling".
- Staphyloma.

⇒ The main cause of orbital cellulitis → ethmoidal sinusitis.

محاضرة د/ إيمان مجدي عيسى



- **Anisocoria** ⇨ Both pupils are different in size.
- **Adie's pupil** ⇨ due to lesion in cilliary ganglion.
  ⇒ Key word → **Tonic pupil** "segmental near reflex".
- **Holms Adies** ⇨ The same disease + Diminution at Tendon reflex.
- **Argyl Robertson pupil:**
  ⇒ Key word → respond Briskly to near reflex.
- **Pancoast Tumor** ⇨ At the apex of the lung may cause Horner's syndrome.
- **Reversed ptosis** "Apparent Enophthalmos":
  - **It is upside down ptosis.**
  - **Narrow palpebral fissure but by lower lid elevation due to → infection of the sympathetic fibers with the IR so the lower lid overcome the muller's ms.**

⇒ DD between **Miosis** of **Horner's syndrome** & of **Adie's pupil**:

- Give 0.125 % pilocarpine → in adie`s pupil denervation hypersensitivity.

محاضرة د/ أحمد عمارة

⇒ In iridocyclitis the cause of photophobia is :

1. Lacrimation → act as a **prism** so the Pt. see colored haloes around the light.
2. Spasm in iris muscles → when subjected to light making the sphincter pupillae to contract so the pain increase.

⇒ What is the type of the hypopyone ulcer??

- It is a sterile ulcer as it is produced by the toxins.

محاضرة د/ محمد حسب الله

- **Pseudo exfoliation syndrome** ⇨ open angel glaucoma due to deposition of basement membrane like material (Dandruff in the angel).
- **True exfoliation syndrome** ⇨ is the glass blowers cataract due to exposure to infra-red rays.

⇒ Never do MRI for the diagnosis & localization of IOFB → because of the magnetic waves especially if the IOFB was magnetic.

⇒ Never give antibiotic eye drops in the rupture globe → as it will enter the eye with high concentrations → **Retinal toxicity**.

⇒ Recurrent corneal erosion syndrome → due to loss of the desmosomes that anqour the cells to the underlying BM.

⇒ Blood staining of the cornea done by:

1. Hyphema. 2. Increased IOP

- The change in color of the blood staining because of the degradation products of HB & the removal of the stain done by the phagocytic activity.

⇒ Rupture globe ⇨

1. ↓ Vision.
2. ↓ IOP.
3. ↓ Depth on AC.
4. ↑ Uveal prolapse.
5. Abnormal shape of the pupil.
   - Never use local antibiotics.

- **Causes of cherry red spot:**

  1. CRAO
  2. Quinine poisoning
  3. Commotio retinae
  4. Amourotic family idiocy

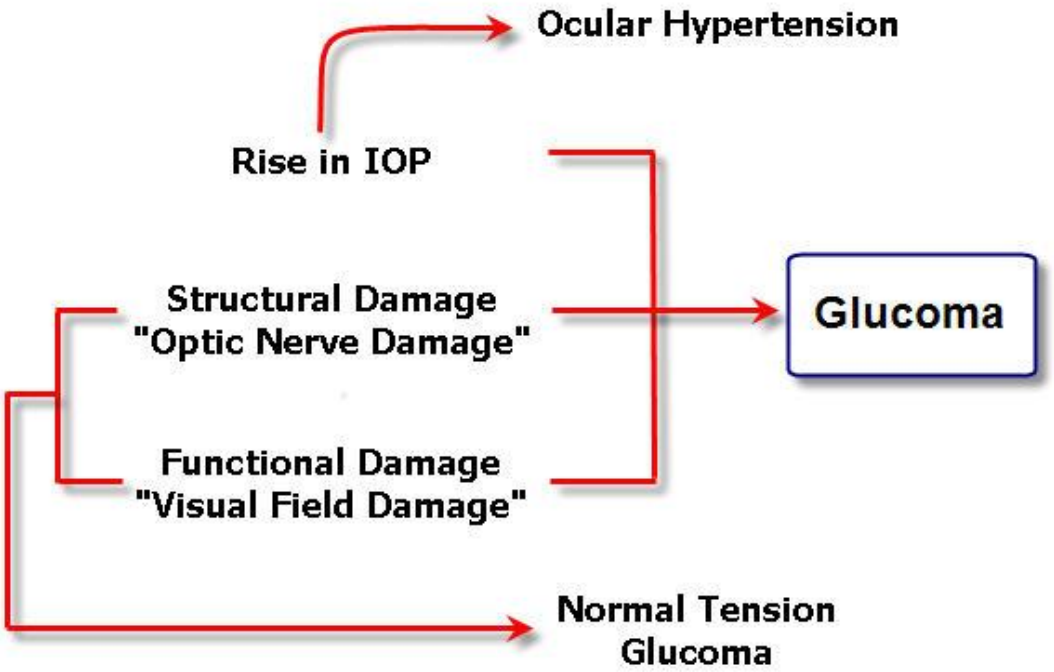
- **Available antidotes at home:**

  - Iodine → "**لبن**" إغسل بـ
  - Strong alkalies → "**خل**" إغسل بـ
  - Lime → "**محلول سكر**" إغسل بـ + **Picking**
  - Strong acids → "**محلول ملح أو لبن**" إغسل بـ

محاضرة د/ محمود صلاح

- The most common cause pf papillitis is multiple sclerosis.
- Infection causes papillitis more than retrobulbar neuritis.
- In the retrobulbar neuritis there is **pain** in **up movement** of the eye.
- In corneal ulcer you should use ointment more than drops → to prevent the sheding of the epithelium.

محاضرة د/ كريم

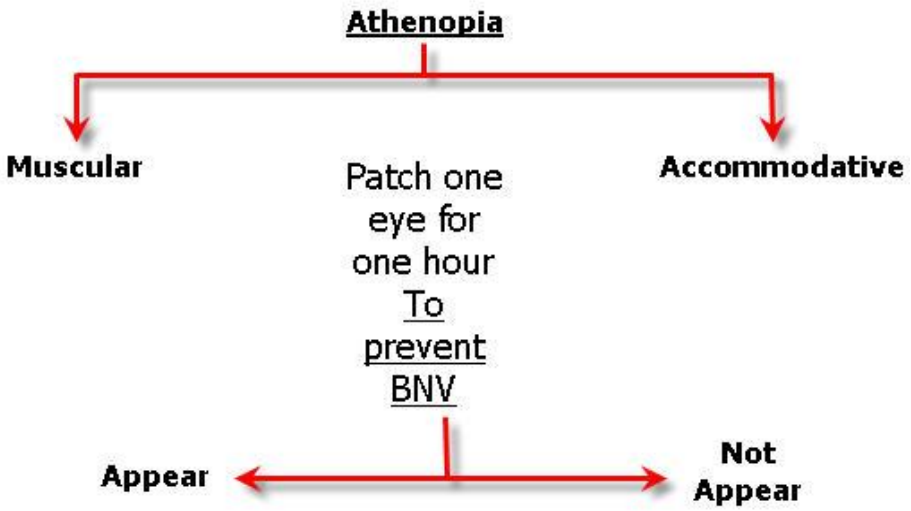


- The pupil in the **acute congestive glaucoma** is <u>semi dilated oval</u> → As the blood vessels at the vertical parts of the pupil less obstructed by pressure than the sides.
- Glaucoma flecken "complicated cataract" → **Glaucoma print**.
- Each eye has an IOP which is suitable for it.
- Each nerve has a pressure which can sustain it.
- OAG → is the sight thief.
- Neovascular glaucoma is the worest type of glaucoma in its progress & ttt.
- Photophobia & Glare :
  - ⇒ Photophobia: is **<u>pathologic</u>** condition occurring with exposure to light due to spasm of iris muscles.
  - ⇒ Glare: is a **<u>physiologic</u>** process when you enter fro dim room to a well illuminated room.

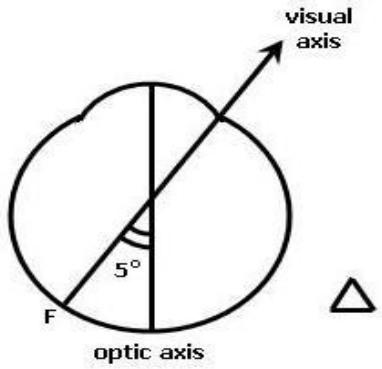
محاضرة د/ حاتم

- Types of Diplopia?? ⇨ Crossed, uncrossed diplopia.
- Diagnosis of eccentric fixation done by visuscope.
- In diagnosis of <u>latent squint</u> → look at the <u>covered eye</u>.
- In the diagnosis of <u>manifest squint</u> → look at the <u>uncovered eye</u>.
- Uses of cover uncover test??
- Accomodation not a solitary mechanism (Accommodation, Miosis, Convergence)
- The oblique muscles → **<u>important in head tilt</u>** (to allow the eye to roll with the head movement).

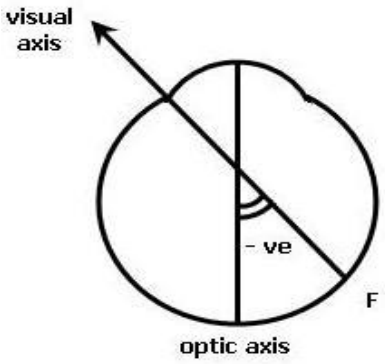
⇒ How to differentiate between <u>Accamodative</u> & <u>Muscular Athenopia</u>??



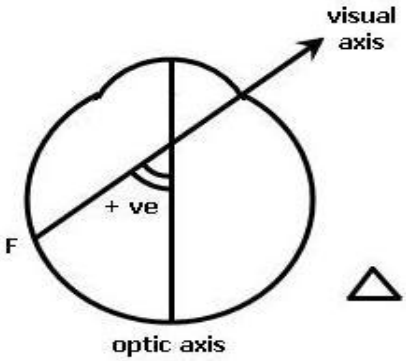
SQUINT



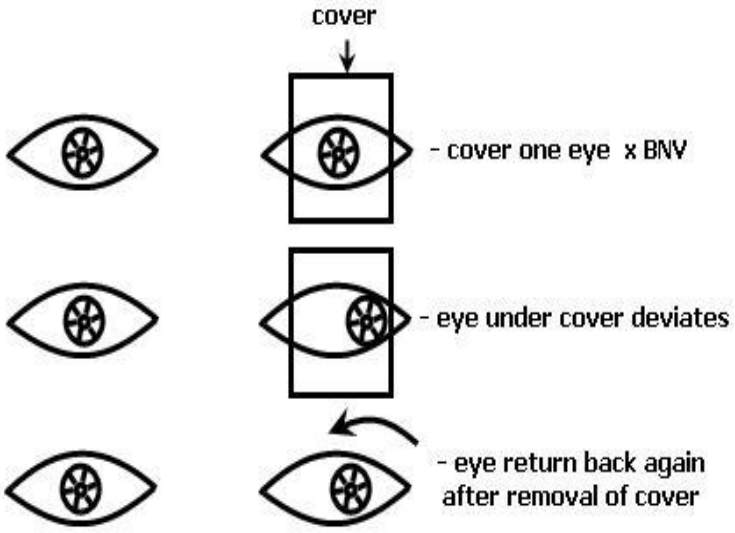
- Angle alpha in emmetrope. " +5°"



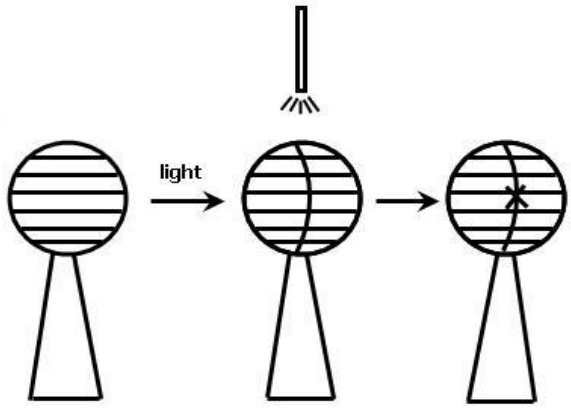
- Angle alpha in Myope "Negative"



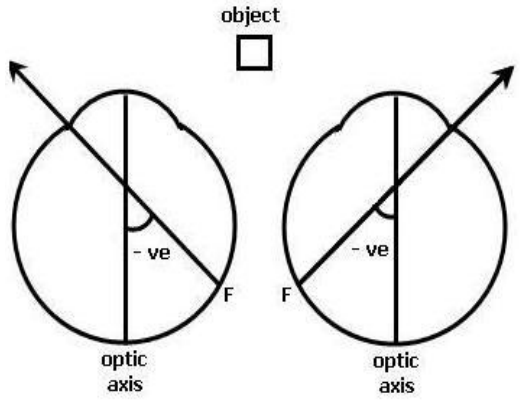
- Angle alpha in Hpermetrope "Large + ve "



- Latent squint by cover-uncover test.

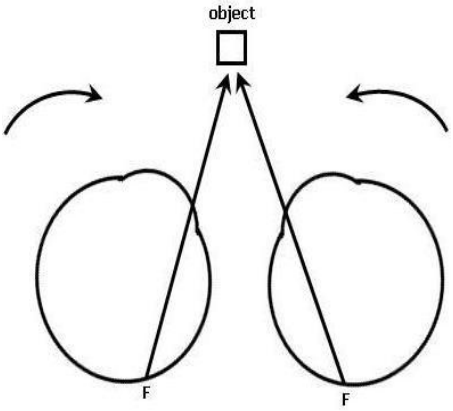


- Maddox Rod.

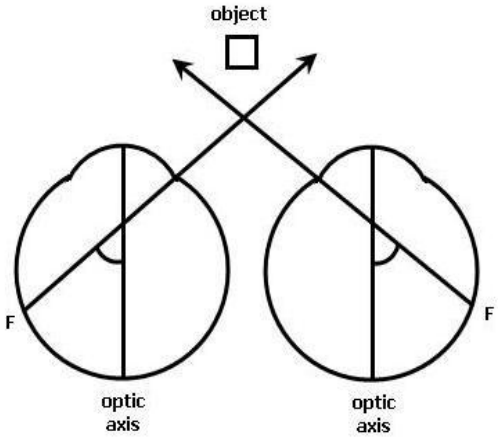


- -ve angel alpha in Myope.

To see the object

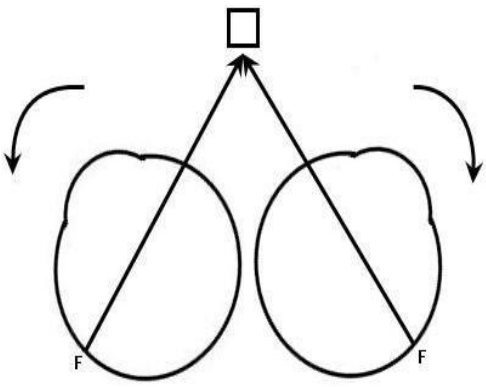


- Apparent convergent squint.

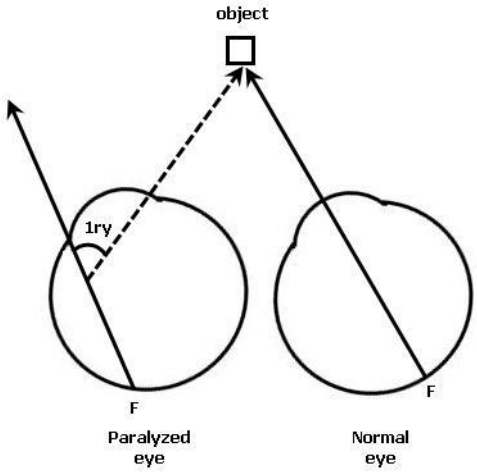


– Large +ve angel alpha in Hypermetrope.

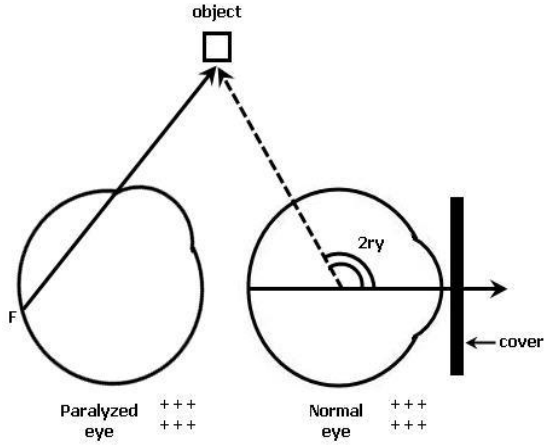
To see the object



– Apperent divergent squint.

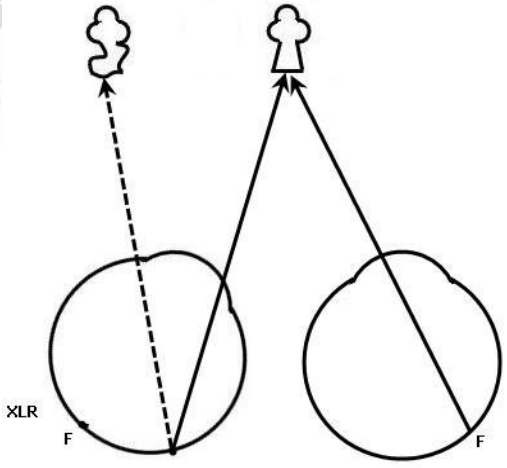


1ry angel of squint.



2ry angel of squint.

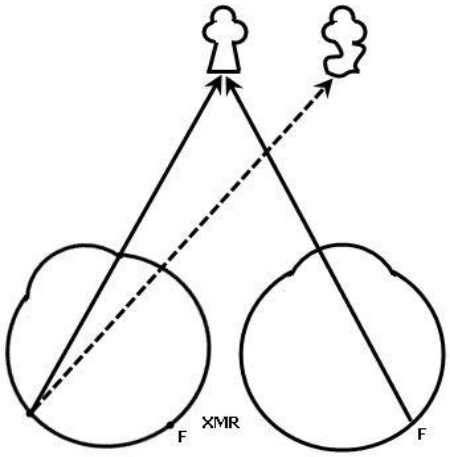
Angel of Squint



- The image falls on non corresponding retinal points ⇨ Diplopia.

- The image falls on the nasal retina of the paralyzed eye so seen in the in the temporal field ⇨ "Same side of the lesion" ⇨ Uncrossed Diplopia.

Uncrossed Diplopia



- The image falls on non corresponding retinal points ⇨ Diplopia.

- The image falls on the temporal retina of the paralyzed eye so seen in the nasal field ⇨"Opposite side Of the lesion" ⇨ Cossed Diplopia.

Cossed Diplopia

محاضرة د/ أحمد شلش

☒ **Current classification of Diabetic Retinopathy** (extremely #)

- Values :

1. Guidline to the sequence of DR & follow up
2. Define the lesion & so the required particular ttt .

- Classification:

⇒ According to early ttt ⇨Dabetic retino-physo studies (ETDRS)

❖ **Non Proliferative DR** (Mild, Moderate, severe).

a. Mild (Involve 1/4 retina).
b. Moderate (Involve 2/4 of the retina).
c. Severe (Involve more than 2/4 of the retina).

- Mycroaneurism
  - Site: Temporal to fovea.
  - Size: 10μ - 100μ .

  ⇒ ttt: Laser .

- Hge
  - Types:

    1. Flame shaped. 2. Dots. 3. Blots.
    4. Diffuse. 5. Petaloid hge "IRMA".

- Retinal odema
  - Cloudy swelling intracellular or extracellular.

- Hard exudates
  - Disfunction of capillary retinal wall.
  - Rounded & Yellowish.

- Venous abnormalities
  - Dilatation, Bleeding, Looping & IRMA.

- Cotton woll spots
  - A sign of ischemia may be due to arterial hypertention.

❖ **Proliferative DR**

- Early with high risk criteria, advanced diabetic eye disease.

  ⇒ How to know that the diabetic retinopathy has changed from **non proliferative to proliferative**??

  - By the appearance of NVD & NVE.

- With release of vascular endothelium growth factors in sever ischemia.
- Fibrous tissue "cotton woll".
- FL angiography detects both areas of ischemia & hge.
- Vitreous hge → fibrous tissue → tractional RD.

❖ **Maculopathy**

- Focal, Diffuse, Ischemic & Mixed.
- More common in Type 2 DM.

☒ **RD is a common question orally.**

تم بحمد الله